

Appl. No. 10/065,296
Amdt. dated 11/25/2004
Reply to Office action of 08/25/2004

Amendments to the Specification:

Please replace paragraph [0019] with the following amended paragraph:

[0019] As shown in Fig.4, another photolithography process is performed to form a photoresist layer 44 on the surface of the P-type substrate 32 for defining a position of a heavily doped region in the photo sensor. Then, using the photoresist layer 44 as a mask, a second ion implantation process is performed to form a doped region 46 on the surface of the photo sensor. The doped region 46 is overlapped with the upper portion of each doped regions 42. Noticeably, the implantation energy of the first-second ion implantation process should be smaller than that of the second-first ion implantation process, so that the junction depth produced by the doped region 46 and the P-type epitaxial layer 34 is smaller than the junction depth produced by the doped region 42 and the P-type epitaxial layer 34. In addition, the dopants used in the second ion implantation process can be the same as the dopants used in the first ion implantation process. That is, the second ion implantation process can use N-type dopants, such as arsenic or phosphorus. However, the dopant concentration of the first ion implantation process should be less than that of the second ion implantation process.